

Claims 14-18 and 33 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 23, 2008.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3, 8-11, 22-24, 26-27 and 29-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 states that the inner structurally supporting wall element 24 being an innermost wall element of the inner tank and this is not supported by the original disclosure. Vertical ring shaped plate 28 as seen in Fig. 3 is actually situated inwardly of the inner structurally supported element 24.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 22-24, 26-27, 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Bomhard (4366654).

Bomhard discloses a tank for storing cryogenic fluids as it is capable of storing low temperature liquids. Bomhard comprising an inner tank(the only tank), wherein the inner tank

includes: a base plate (5, 10, 16, 17, 18, 19, 20 and horizontal portions of layers 11 and 12), a vertical wall (4, 9, 13, 14 and vertical portions of layers 11 and 12), the inner tank being provided with a fluid tight barrier (vertical portion of metal liner 11), an inner structural supporting wall element (9, 14, 15) made of concrete (layers 14 and 15 are concrete), an outer structural supporting wall element (4) made of concrete. The inner structurally supporting wall element being the innermost wall element as nothing precludes the inner wall element from containing more than one layer or more than one composition of material.

The fluid tight barrier having a structure consistent with a method of forming wherein thin joined plates and or joined sheets are connected together without seams. The “being formed of thin joined plates and/or joined sheets” limitation is a method limitation within a product claim. The method of forming doesn’t need to be found. The structure is consistent with this method of forming.

The wall elements and barrier form a compact, integrated structural load bearing and fluid tight wall together resisting against expansion and contraction forces.

The base plate is arranged to be fluid tight and is fluid tightly joined with the intermediate fluid tight barrier arranged between the wall elements.

Re claims 22-24, the inner wall element includes side wall 9, vertical extending portion of layer 12, insulation material 13 and upwardly extending leg 15 of concrete ring 14.

Re claims 24 and 26-27, the inner wall element is a structural element. If cool temperature reaches fluid tight barrier 11 and causes it to contract, the structural elements of the inner wall element will prevent or restrain the contracting of the barrier 11. In turn, the fluid

tight barrier will exert a prestressing force radially inward on the inner wall element during the compaction.

Claims 1, 22-24, 26-27, 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by British reference No. 1341892 (the British reference).

The British reference discloses a tank for storing cryogenic. The tank comprising an inner tank(the only tank), wherein the inner tank includes: a base plate (26, 22, 32, 16, 28), a vertical wall (52, 50, 48, 46, 40, 38, 36, 30), the inner tank being provided with a fluid tight barrier (steel wall 40), an inner structural supporting wall element (30, 36, 38) made of concrete (wall 30 is concrete), an outer structural supporting wall element (everything outside of wall 40) made of concrete (layer 46 is concrete).

The fluid tight barrier having a structure consistent with a method of forming wherein thin joined plates and or joined sheets are connected together without seams. The “being formed of thin joined plates and/or joined sheets” limitation is a method limitation within a product claim. The method of forming doesn’t need to be found. The structure is consistent with this method of forming.

The wall elements and barrier form a compact, integrated structural load bearing and fluid tight wall together resisting against expansion and contraction forces.

The base plate is arranged to be fluid tight and is fluid tightly joined with the intermediate fluid tight barrier arranged between the wall elements. The evidence of this is the scenario suggested by page 2, lines 107-111 that if the inner wall 30 were to fail, the contents would then pass through insulation 38 to the outer steel wall 40. This suggests that the steel wall forms a barrier that is leak proof and would be fluid tightly joined to a leak proof wall of the base.

Re claims 24 and 26-27, the inner wall element is a structural element. If cool temperature reaches fluid tight barrier 40 and causes it to contract, the structural elements of the inner wall element will prevent or restrain the contracting of the barrier 11. In turn, the fluid tight barrier will exert a prestressing force radially inward on the inner wall element during the compaction.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bomhard in view of Closner et al. (3926134) (Closner).

Bomhard discloses the prestressed concrete material of the outer wall element but fails to teach multi-axially prestressed concrete. Closner teaches an outer concrete wall which is prestressed in a plurality of directions and is considered multi-axially prestressed concrete. It would have been obvious to prestress the concrete in more than one direction to add strength in another direction to prevent or restrain expansion forces and axial forces rather than one or the other of these forces.

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bomhard in view of Yamamoto (3595423).

Bomhard discloses the invention except for outer tank. Yamamoto teaches an outer tank (2, 2', 2'', 2''') which encompasses an inner tank (4, 4', 4'', 4b, 4c), a layer of insulation (3', 3'',

3''') is interposed between the inner and outer tanks. It would have been obvious to add an outer tank and insulation to provide thermal protection as well as impact protection to the inner tank.

Allowable Subject Matter:

Claims 19-21, 25 and 34 are allowed.

Response to Arguments:

Applicant's arguments filed February 12, 2010 have been fully considered but they are not persuasive.

Re Bornhard, applicant's comments seem to imply that there are different structures rather than an integrated structure having the inner wall and outer wall as claimed. The word "different" has not been used. It is true that the cylindrical double-walled tank 1 is described as having an outer tank 2 and an inner tank 3. However, it is clear that the two walls (double-walled) of tank 1 are tank 2 and tank 3. It is inappropriate to first conclude that tank 2 is different from tank 3 then conclude that these two tanks are not actually walls of the aforesaid tank 1 and that tank 1 is not an integrated structure as is implied by applicant's response.

Since Bornhard is an integrated tank 1 with an inner wall (9, 14 and 15), the inner wall element is not precluded from have both a concrete layer and layers of other composition (like metal). The inner wall element is directly exposed to the interior volume.

Re GB ('892), applicant's statements misrepresent what is stated. Applicant states that concrete wall 46 and outer wall 50 are described as separate from the inner tank. However, the word "separate" has not been used. More clearly and accurately stated, page 1, lines 73-87 state

that the concrete wall 46 surrounds the side wall 12 and the outer wall 50 surrounds the concrete wall. More accurately, GB ('892) discusses spacing by having an intermediate insulation wall rather than separation by air or vacuum. By viewing Fig. 3, there are no air or vacuum spaces forming separation. Figure 3 represents an integrated wall structure from outer layer 50 to innermost layer 30. Layer 46 forms the outer structurally supporting wall element made of concrete. Layer 30 represents a concrete inner structurally supporting wall element directly exposed to the interior volume.

The claims are silent to the fluid tight barrier being directly exposed to the inner structurally supporting wall element.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Stephen J. Castellano/ whose telephone number is 571-272-4535. The examiner can normally be reached on increased flexibility plan (IFP).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony D. Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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